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ADMISSION OF AZEOTROPIC MIDDLE CLASS IN THE PERIPHERY OF POLITICAL ECONOMY THROUGH INCOME –TAX RELATION

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Abstract: The present study embodies income and tax relation with reference to any country. The income of the number fractions of different group people of a country is highlighted although the tax is commenced after reaching the income at certain level or above this. For the ideal system, the lense shaped curve considers both the possibilities of regressive and progressive taxes where the former is associated with volatile mentality and the latter is concerned with liquid mentality of tax payer. The non-ideal systems are of two alternative possibilities where deviations from ideal behavior are highest at some composition corresponding to lowest or highest income levels. Both the possibilities consider a pair of lense shaped area (with a definite point of meeting) wherefrom a new concept is developed which is nothing but azeotropic middle class such that the components cannot be separated by fractional liquid mentality principle. The corresponding chemical aspect is also mentioned where temperature vs. Composition curves of both ideal and non-ideal systems of completely miscible liquid pair are taken into consideration. The concept of phase rule, Lever rule, azeotrope and theoretical plate are involved and the useful theoretical relations in this regard are also indicated.

1. Introduction:

The income- tax relation is cordially related with Governmental economics because this is the prime source of tax revenue of Government, the lack of which must create heavy inefficiency in the social welfare principle as laid down by the ruling Government which in turn is a function of time and space. A proper income-tax relation may reduce the inequality in the distribution of income which facilitates both the increase of cost of investment and that of consumption simultaneously. Hence implement of progressive tax by the Government is most likely. This principle of elasticity of income-tax relation is in accordance with justice in the distribution of tax burden which considers both the vertical and horizontal equality, according to Adam Smith. Nevertheless, the above system is related with mild inflation which must act in opposition to the antidevelopment created in the system concerned. The economical equality so developed in the system must be consistent with fiscal policy of ruling Government.

2. Analysis:

In figure 1, income (I) of two different components like A (lower middle class) and B (upper middle class) are taken along Y axis whereas tax of different number fractions of people (both A and B type) are considered as X axis. Though it is a two component system yet it includes the various possibilities (composition) of different income groups.

For an ideal system, there exists a minimum income level (I_A) of component A for which or below of which the tax of the number fraction of component B is absolutely zero (the intercept $OA \neq 0$ as is evident from statistics oriented experimental finding on huge mass related to country concerned) and tax will be maximum at B where the income level of component B is of same order (maximum).

The plot gives a lense-shaped; the upper line AaB (regressive tax line) (vaporous) represents the composition of the phase of volatile mentality for not to give their proper tax while the lower line abB (progressive tax line) (liquid us) represents the composition of the phase of liquid mentality to give their elastic tax.

Since at A and B, both the phases of mentality are in equilibrium, so at any point inside the lense-shaped area, the number of phases (P) =2. Therefore the degree of freedom (F)=C-P+1. { C = number of components = 2

(both A and B)} (The social pressure on tax payer is found to be insignificant). So, F = 2-2+1 = 1 which implies that composition of tax payer and income of incumbent are mutually dependent. Outside this lense-shaped area, there is only one phases of mentality, thus P = 1 and hence F = 2 i.e. the tax and income are both independent
From the above system (figure1), the components can be totally separated by means of fractional liquid mentality principle. Thus, if we start with the composition of the liquid mentality having payment of tax X_1 , it will be associated with income T_1 and the composition of the volatile mentality in equilibrium with that of liquid mentality will be X_2 (enriched in more volatile part A). If this volatile mentality is lowered by income by income to form liquid mentality, the newly obtained composition of the liquid mentality will have a lower income T_2 and the volatile mentality that will in equilibrium with it will be again richer in A (corresponding composition X_3). The volatile mentality, when lowered by income will give a composition of liquid mentality having income T_3. Thus alternative increasing of income and lowering of same will ultimately give pure A as liquid mentality. The residue will be progressively enriched in B during each liquid mentality and ultimately be converted to pure B. The horizontal lines $a^{/}T_1$, aT_2, $a^{//}T_3$ are known as theoretical plates. The relative amounts of these two phases of mentality are given by Lever rule: Amount of liquid mentality/ Amount of volatile mentality = Ce/eD.

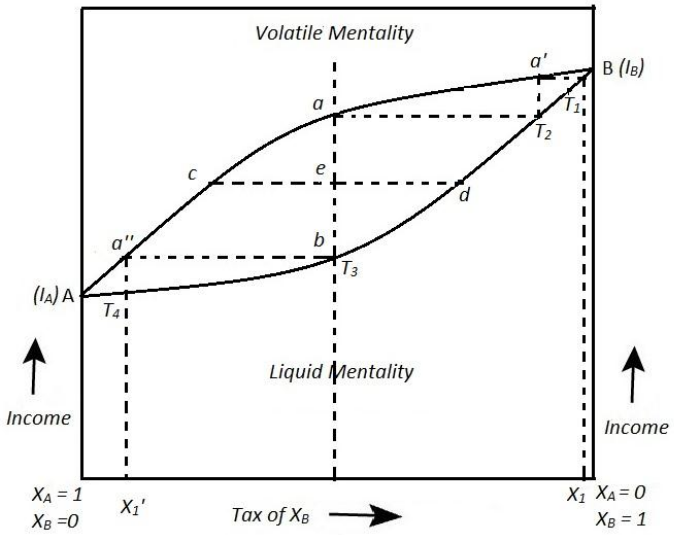

Figure 1: Income (I) of two different components like A (lower middle class) and B (upper middle class) vs tax of different number fractions of people (both A and B type) for type I system.

The total volatile mentality of the mixture of liquid mentality lies between those of pure upper and pure lower middle class. The phase of volatile mentality also contains both A and B type of tax payer. The phase of volatile mentality will have greater amount of more volatile mentality type, in comparison to phase of liquid mentality. Obviously, for an ideal system composition of volatile mentality is different from that of liquid mentality and lower middle class is totally exempted from payment of tax and hence it is escaped from the liabilities towards the necessary development of the country. However, figure 1 destroys the concept of proportional tax as that employed by A. Smith.

Thus, the above ideal system (type I) should be reasonably replaced by non ideal systems which are of two types (II and III). In both the types, departure from ideal behavior is highest at some composition where liquid mentality and volatile mentality becomes the same. Of the two (II and III)., type II is the most reasonable one which is explained through figure 2 where this composition corresponds to lowest income level (corresponding to point $C^{/}$).

From figure2, it is evident that we can consider such curves as a combination of curves of two separate ideal systems—1.one between lower middle class and azeotropic middle class and the 2. Other between azeotropic middle class and upper middle class. The azeotropic middle class is a peculiar mixture which has income level of unchanged composition.

According to figure 2, the components cannot be totally separated by means of fractional liquid mentality principle. Let us consider liquidification of mixture of liquid mentalities of any arbitrary composition X_1. On progressive liquidification the volatile mentality becomes more and more enriched in azeotropic middle class and ultimately this comes out as a state of liquidity. The residue in the system is pure upper middle class. On the contrary, if we commence with composition $X_1^{/}$, then as the state of liquidity we get the azeotropic middle class and lower middle class comes as residue. Type II is consistent with maximum volatile mentality.

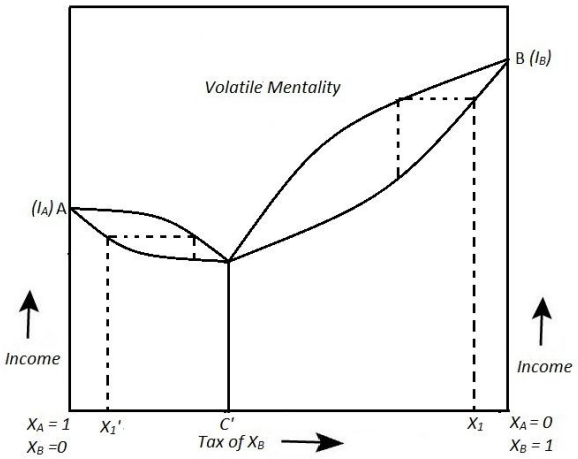

Figure 2: Income (I) of two different components like A (lower middle class) and B (upper middle class) vs tax of different number fractions of people (both A and B type) for type II system.

Figure 2 has alternative theoretical possibility (rare situation) which is indicated by figure 3. This is relevant with type III system. Figure 3 indicates that mixture of liquid mentality of both upper and lower middle class has maximum income level (corresponding to point $C^{//}$). This can also be realized as composition of two type I curves—1.one between pure lower middle class and azeotropic middle class and 2. The other between azeotropic middle class and pure upper middle class. Analysis shows that liquidification of mixture of liquid mentality at composition X_1 gives pure upper middle class as the state of liquidity and azeotropic middle class as residue. On the contrary if we liquidify a mixture of liquid mentality having composition $X_1^{/}$, we will have pure lower middle class as the state of liquidity and azeotropic middle class as residue. Type III shows a system where volatile mentality is minimum.

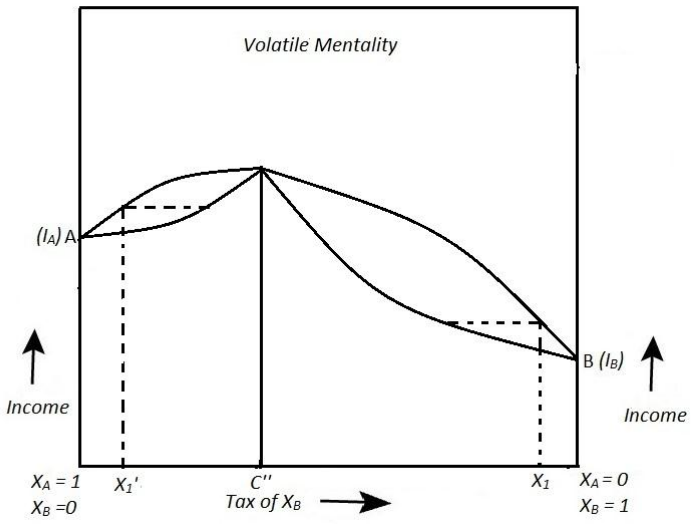

Figure 3: Income (I) of two different components like A (lower middle class) and B (upper middle class) vs tax of different number fractions of people (both A and B type) for type III system.

3. Chemical aspects:

The figures 1,2,3 can be compared with temperature vs. composition curves of ideal and non ideal systems (two) of completely miscible liquid pairs [1-7] where within the lense-shaped area the two phases (liquid and vapor) are in equilibrium. The curve above which vapor phase exists alone is known as vaporous and the curve below which liquid phase exists alone is termed as liquid us. Any horizontal line within lense-shaped area is known as theoretical plate. The term azeotrope implies a constant boiling liquid mixture where fractional distillation is absurd. The used relations are due to 1. Raoult's law 2. Gibb's Duhem equation 3. Duhem Margule's followed by Konowaluff's rule.

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